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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,241	09/17/2003	Gilbert Farmer	121441-7	3295
30952	7590	03/18/2004	EXAMINER	
HARTMAN AND HARTMAN, P.C. 552 EAST 700 NORTH VAIPARAISO, IN 46383				MCNEIL, JENNIFER C
ART UNIT		PAPER NUMBER		
1775				

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/605,241	FARMER ET AL.	
	Examiner	Art Unit	
	Jennifer C McNeil	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 17 September 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-12 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

Claim Objections

Claims 5, 9 and 10 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 5 and 9 state the surfaces of the component and coating defining the through-hole are deburred and smoothed primarily by impact fracturing of the deposit and impact flattening of the surfaces, and not by erosion or abrasion of the deposit. Claim 10 states that the surfaces of the component are smoothed by impact flattening of the microfeatures on the surfaces. It is not clear how these limitations further limit the parent claims. Is this feature not already present in the independent claims? In other words, does the article of claims 1 and 8 not have components and coatings that are smoothed and deburred by impact flattening? Please clarify.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant's claims state that deposits contiguous with the coating of the first surface of the component are removed from through-holes. The claims go on to state that the surfaces of the component and the coating defining the through-hole are deburred and smoothed. It is not clear what is removed from the component. Is the deposit that is removed the coating? The specification appears to define the deposit as the coating that is deposited within the holes during deposition on the component as a whole. Please clarify what is removed from the holes, and if the component and/or the coating are deburred and

Art Unit: 1775

smoothed. For the purpose of examination, the examiner has taken the position that there may or may not be a coating present within the holes after removal of the deposits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Camm et al (US 6,004,620). Camm teaches a method of unblocking an obstructed cooling passage. Application of coating (28) often results in an undesirable accumulation (30) of the coating material within and over the cooling holes (16). Using a high-pressure water jet (38), water is directed at the holes at a pressure between about 10,000-60,000 psi. This results in substantially no machining of the metal of the uncoated exterior surface of the walls (44). The component has first and second surfaces on either side of the wall (44) as shown in Figure 2. Regarding the method limitations of the claims, i.e. jet with non-abrasive media, nozzle pressure, direction of jet, are not considered to structurally limit the structure over the prior art of record. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was

made by a different process.", (*In re Thorpe*, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

It is the examiner's position that the method of Camm would result in a through-hole with a deburred and smoothed surface as the water jet is applied at a pressure strong enough to remove the deposits while preserving the integrity of the component walls.

Regarding claim 2, the coating is a ceramic coating.

Regarding claim 3, the process limitation is not considered to define over the prior art. However, Camm does teach deposition of the ceramic by plasma spray.

Regarding claim 4, the hole intersects the first and second surfaces of the component.

Regarding claims 5, 9, and 10, the water does not contain any abrasive materials and the means by which the smoothness is accomplished is not considered to structurally define over the prior art.

Regarding claims 6, 7, and 12 it is the examiner's position that the discharge coefficient of the holes of Camm would possess these characteristics as the process of removing the deposits is substantially commensurate with that of the applicant, in that there is no abrasive used, and the force used is sufficient for removal of the deposits but not damaging the metal substrate.

Claims 1-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Farmer et al (EP 1103627A2). Farmer teaches a method for removing a bond coat and thermal barrier coating from holes without removing metal from the component substrate. A fluid jet substantially free of solid particles is used at a pressure of between about 5000 to about 50,000 psi. The component has first and second surfaces on either side of the wall (10) as shown in Figure 6. Regarding the method limitations of the claims, i.e. jet with non-abrasive media, nozzle pressure, direction of jet, are not considered to

Art Unit: 1775

structurally limit the structure over the prior art of record. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.”, (*In re Thorpe*, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

It is the examiner’s position that the method of Farmer would result in a through-hole with a deburred and smoothed surface as the water jet is applied at a pressure strong enough to remove the deposits while preserving the integrity of the component walls.

Regarding claim 2, the coating includes a ceramic coating.

Regarding claim 3, the process limitation is not considered to define over the prior art. However, Farmer does teach deposition of the ceramic by plasma spray.

Regarding claim 4, the hole intersects the first and second surfaces of the component.

Regarding claims 5, 9, and 10, the fluid is water and does not contain any abrasive materials and the means by which the smoothness is accomplished is not considered to structurally define over the prior art.

Regarding claim 11, the component may be a combustion liner.

Regarding claims 6, 7, and 12 it is the examiner’s position that the discharge coefficient of the holes of Farmer would possess these characteristics as the process of removing the deposits is substantially commensurate with that of the applicant, in that there is no abrasive used, and the force used is sufficient for removal of the deposits but not damaging the metal substrate.

Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Fehrenbach et al (US 6,368,060). Fehrenbach teaches removal of surface irregularities and discontinuities from cooling holes after coating depositions. Smooth transitions can be achieved by using a high-pressure fluid stream. The fluid stream is targeted at the hole and is pressurized to at least about 200 bar, and may contain an abrasive grit.

Regarding the method limitations of the claims, i.e. jet with non-abrasive media, nozzle pressure, direction of jet, are not considered to structurally limit the structure over the prior art of record. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.”, (*In re Thorpe*, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

It is the examiner’s position that the method of Fehrenbach would result in a through-hole with a deburred and smoothed surface as the water jet is applied at a pressure strong enough to remove the deposits and obtain smooth transitions by eliminating irregularities and discontinuities.

Regarding claim 2, the coating includes a ceramic coating.

Regarding claim 3, the process limitation is not considered to define over the prior art. However, Fehrenbach does teach deposition of the ceramic by plasma spray.

Regarding claim 4, the hole intersects the first and second surfaces of the component.

Art Unit: 1775

Regarding claims 5, 9, and 10, the fluid is water, and the means by which the smoothness is accomplished is not considered to structurally define over the prior art.

Regarding claim 11, the component may be a combustion liner.

Regarding claims 6, 7, and 12 it is the examiner's position that the discharge coefficient of the holes of Fehrenbach would possess these characteristics as the process of removing the deposits results in a smooth surface of the cooling holes.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer C McNeil whose telephone number is 571-272-1540. The examiner can normally be reached on 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JCM
March 9, 2004